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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/727,111	11/29/2000	James Molenda	CISCO-2916	6816

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EXAMINER

SINGH, RAMNANDAN P

ART UNIT PAPER NUMBER

2614

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PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

	Application No. 09/727,111	Applicant(s) MOLEND A ET AL.	
Office Action Summary	Examiner Ramnandan Singh	Art Unit 2614	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 26 April 2007.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-66 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 2-24 and 44-66 is/are allowed.
- 6) ☒ Claim(s) 1,25,26,31,32,37,38 and 43 is/are rejected.
- 7) ☒ Claim(s) 27-30,33-36,39-42 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

PREFACE

1. This case has been transferred to another examiner.

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claim 26 is rejected under 35 U.S.C. 103(a) as being unpatentable over Takato et al [US 4,827,505].

Essentially claim 26 claims a circuit configuration of a first 2-wire to 4-wire converter (hybrid) for receiving an input differential mode signal on a first pair of conductors and converting the signal into a pair of signals , and using a second 4-wire to 2-wire converter for converting the signals back into an output differential mode signal for transmitting on a second pair of conductors, wherein the output differential mode signal are intended

for different applications including the loop back of the output differential mode signal.

Takato et al teach a method for controlling a differential mode signal received at a network device on a first pair of conductors and transmitted from the network device on a second pair of conductors, as shown in Figures 3-8, the method comprising:

receiving the differential mode signal [Fig. 3; col. 1, lines 38-63; col. 5, lines 7-25];

applying the differential mode signal to a first steering circuit and a second steering circuit [Fig. 3; col. 5, lines 7-25; Fig. 8; col. 8, line 62 to col. 9, line 13];

generating a first signal to be transmitted on a first one of the second pair of conductors with the first steering circuit (not shown) [Figs 3-5; col. 4, line 21 to col. 6, line 20];

generating a second signal to be transmitted on a second one of the second pair of conductors with the second steering circuit (not shown) [Figs 3-5; col. 4, line 21 to col. 6, line 20]; and

transmitting the first and second signals on the second pair of

conductors [Figs. 3-8, 14-17; col. 4, line 21 to col. 10, line 62; col. 11, line 65 to col. 16, line 14].

Since Takato et al teach applying a 2-wire to 4-wire circuit (i.e. hybrid) conversion for converting a differential mode signal [Figs. 4, 14-17; col. 8, line 62 to col. 9, line 12], it would have been obvious to a person of ordinary skill in the art, at the time the invention was made, to apply a second hybrid of a 4-wire to 2-wire converter to transmit an output differential mode signal, wherein the first steering circuit and the second steering circuit are embedded within the first hybrid circuit of a 2-wire to 4-wire circuit [Takato et al; col. 19, lines 12-21; col. 20, lines 27-41].

4. Claims 1, 25, 26, 31, 32, 37, 38, 43 are rejected under 35 U.S.C. 103(a) as being unpatentable over Goolcharan et al [US 6,604,422].

Regarding claim 1, Goolcharan et al teach an electronic circuit for receiving a differential mode signal on a first pair of conductors and transmitting a signal on a second pair of conductors, as shown in Figs. 1-5, the circuit comprising:

a first steering circuit (i.e. driving circuit) responsive to the differential mode signal on the first pair of conductors and configured to generate for a first electrical signal on one of the second pair of conductors [Figs. 1- 2, 3A through 3D, col. 4, lines 11-23; col. 8, line 11 to col. 10, line 23];

and a second steering circuit (i.e. driving circuit) responsive to the differential mode signal on the first pair of conductors and configured to generate for generating a second electrical signal on the other of the second pair of conductors [Figs. 1- 2, 3A through 3D, col. 4, lines 11-23; col. 8, line 11 to col. 10, line 23];

the first and second electrical signal together constituting a loop back of the differential mode signal [Fig. 5, element 59] and wherein the first steering circuit and the second steering circuit are respectively combined to generate the first electrical signal and the second electrical signal using a signal level power of the received differential mode signal [Figs. 1-5; col. 10, line 60 to col. 14, line 31].

Since Goolcharan et al teach applying a 2-wire to 4-wire circuit conversion for converting broadband differential mode signals [Figs. 2, 3A through 3D; col. 10, lines 9-13], it would have been obvious to a person of

ordinary skill in the art, at the time the invention was made, to use a hybrid of 2-wire to 4-wire converter to convert a differential mode signal and a hybrid of 4-wire to 2-wire converter to transmit an output differential mode signal, wherein the first steering circuit and the second steering circuit are embedded within the first hybrid circuit of a 2-wire to 4-wire circuit {Goolcharan et al; col. 2, lines 61-66; col. 19, lines 39-45}.

Regarding claim 26, the limitations are shown above.

Claims 25, 31, 32 are essentially similar to claim 1 and are rejected for the reasons stated above.

Claims 37, 38 and 43 are essentially similar to claim 1 except for an intended use of the invention over a voice-over-IP (VOIP) telephone. Hence claims 37-38 and 43 are also rejected for the reasons stated above.

Allowable Subject Matter

5. Claims 2-24 and 44-66 are indicated allowable.

6. Claims 27-30, 33-36, 39-42 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Conclusion

7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Ramnandan Singh whose telephone number is (571) 272-7529. The examiner can normally be reached on M-TH (8:00-5:30).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Fan Tsang can be reached on (571) 272-7547. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Ramnandan Singh
Examiner
Art Unit 2614

A handwritten signature in black ink, appearing to read 'RNS', with a long horizontal line drawn underneath it.